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Petrol and diesel prices

Summary

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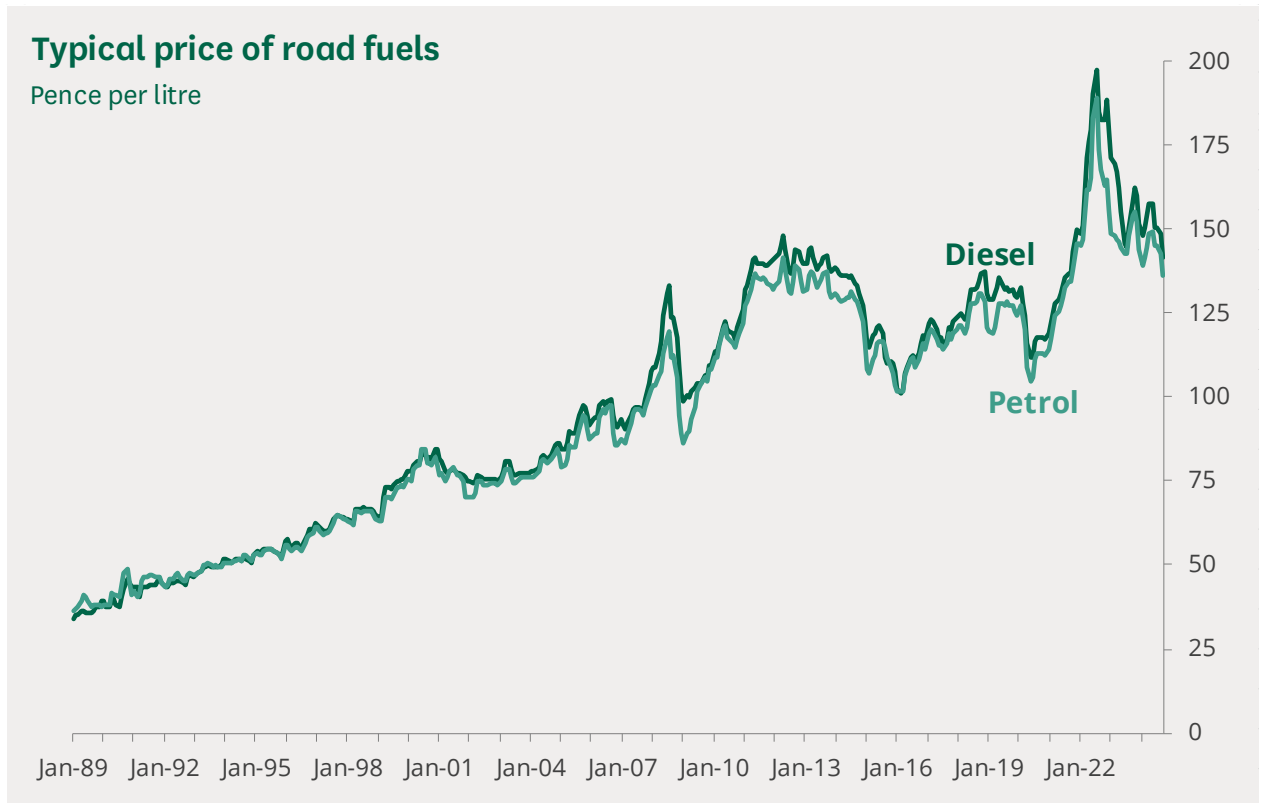
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Summary of recent price data

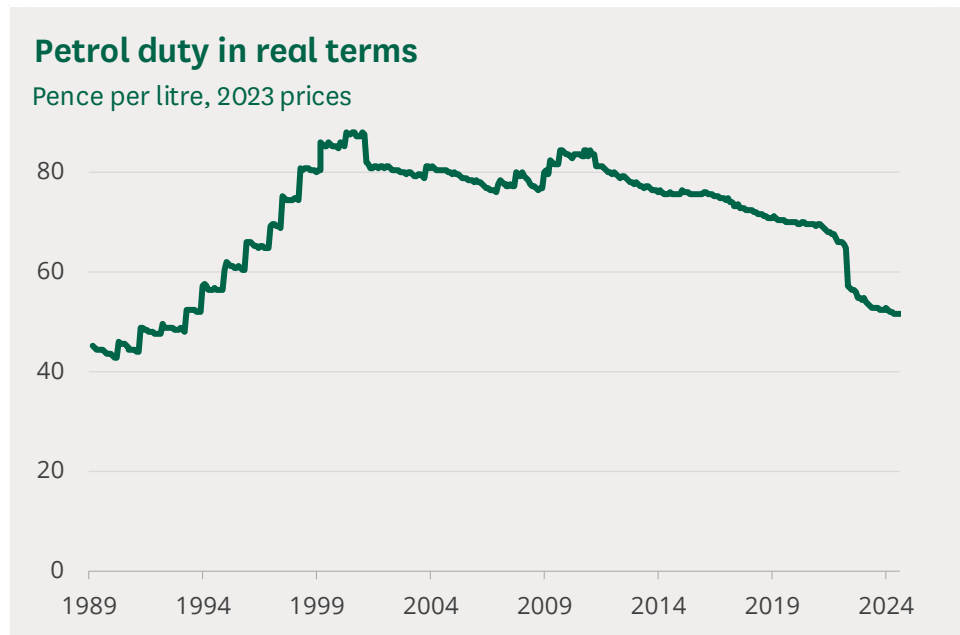
	Petrol		Diesel	
Latest price pence/litre	134.0		139.3	
Components	pence/litre	%	pence/litre	%
pre-tax price	70.4	53%	77.2	55%
duty	53.0	40%	53.0	38%
VAT	22.3	17%	23.2	17%
Annual change	▼ -17%		▼ -25%	
5 year trends				
Rank in EU+UK highest to lowest	10th		3rd	

UK road fuel prices peaked in early July 2022 at 192 pence per litre on average for petrol and 199 pence per litre for diesel. The latest prices for both fuels are 30% below these peak levels and the lowest levels since summer 2021.



Source: DESNZ, [Quarterly energy prices](#), Table 4.1.1

Road fuel duty is currently 52.95 pence per litre for both fuels. It was cut by 5 pence per litre in March 2022 in response to sharp increases in pump prices soon after Russia launched its full-scale invasion of Ukraine in late February 2022. The current duty rate is the lowest since March 2009 in cash terms and the lowest since March 1993 in real terms.



Source: [Hydrocarbon Oils Bulletin](#), HMRC; ONS, [CPI all-items](#)

In July 2023 the Competition and Markets Authority’s [road fuel market study report](#) concluded that retail margins in fuel retail had risen ‘significantly’ since 2019 with an increase of 6 pence per litre between 2019 and 2022 at the big four supermarkets and diesel retail margins in early 2023 of 13 pence per litre higher than 2017-22 levels. The report found “clear evidence in the data of rocket and feather pricing for diesel in 2023”. This is when prices are said to increase like a rocket and fall like a feather.

Most of the data in this paper is monthly prices. The latest is for September 2024. Weekly price data is more up to date and included on page 8.

Trends in the pump and pre-tax price of road fuel and other petroleum products are given in The Department for Energy Security and Net Zero’s [Collection of road fuel and other petroleum product price statistics](#). The AA’s [Fuel Price Reports](#) have national, regional and international average prices. The RAC’s [Fuel Price Watch](#) includes up to date prices, longer term trends and a breakdown of the different price components.

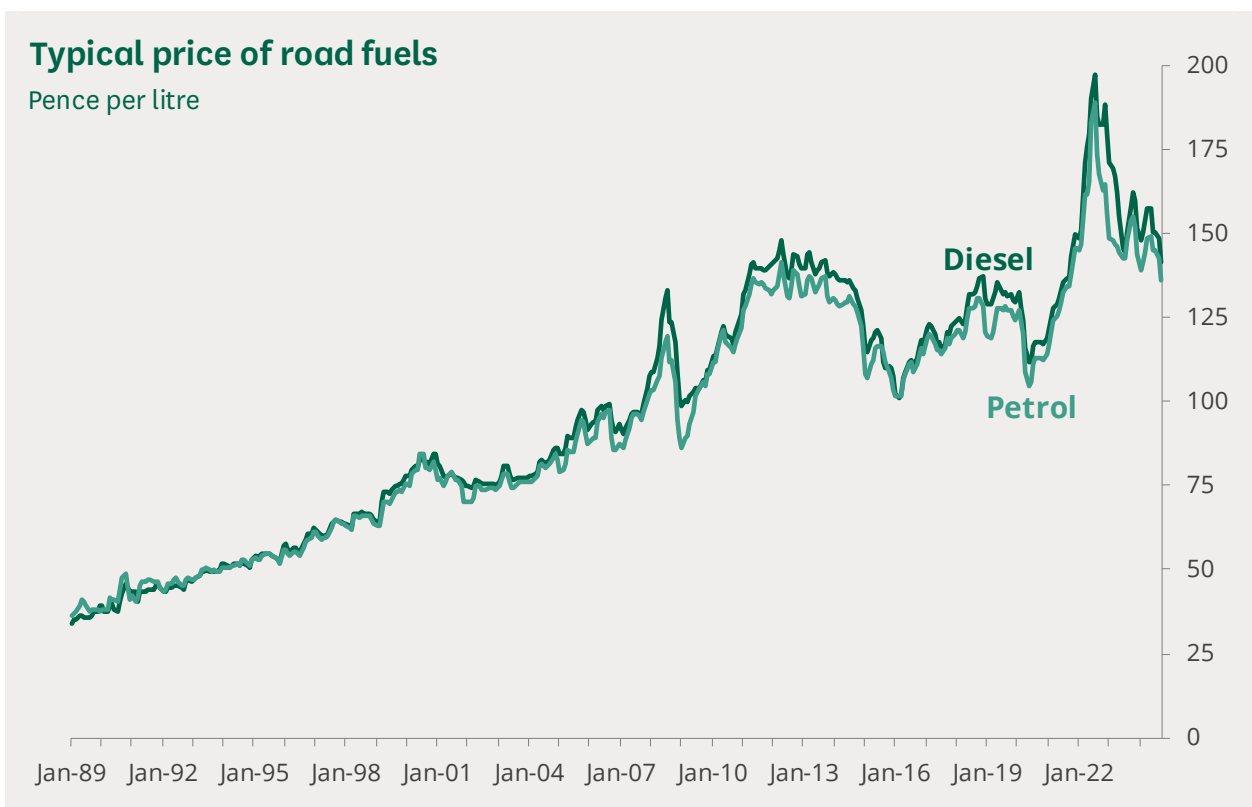
[Petrolprices.com](#) gives regional and local price figures. The [Hydrocarbon Oils Bulletin](#) from HMRC includes details of changes in duty rates and revenues. The European Commission’s [Oil Bulletin](#) gives a weekly comparison of pump and pre-tax prices of fuels across the EU. The International Energy Agency’s [Monthly Oil Prices](#) shows trends in fuel prices for the largest OECD economies. Their [Oil Market Report](#) gives background to changes in oil and product prices. Oil price data is summarised in the Library briefing [Oil prices](#).

The associated spreadsheet to this paper includes the following reference tables:

- [Breakdown of typical UK road fuel since 1990](#)
- [Latest average Petrol and Diesel Prices and Taxes in the EU and UK](#)

1 Trends in pump prices

The [appended Table 1](#) summarises monthly fuel price data from 1989 onwards. The chart below looks at trends in pump prices over this time. Trends for petrol and diesel were broadly similar over most this period – differences between the two prices are looked at in the next section.



Source: DESNZ, [Quarterly energy prices](#), Table 4.1.1

1990s

While there were regular peaks and troughs, most of the 1990s was characterised by a consistent long term increase that averaged around 2.7 pence per litre each year.

Up to the summer 2008 peak

Prices increased at a faster rate in late 1999 and 2000 which led to the September 2000 fuel protests when petrol and diesel were an average of 80.2 and 82.3 pence per litre respectively. Prices subsequently fell back to around 75 pence per litre in 2002. The spike that immediately followed the invasion of Iraq was short lived; petrol and diesel prices were 76 and 78 pence per litre

respectively at the end of 2003. Price spikes have tended to be sharper in recent years. Prices fell in early 2007 and February 2007 prices were broadly consistent with the long-term price rises seen in the 1990s. However, early 2008 saw the fastest period of price increases of recent decades and typical retail prices at mid-July 2008 were 119.4 pence per litre for petrol and 132.9 pence per litre for diesel.

To the Spring 2012 record levels

Prices fell back sharply over the second half of 2008, but, apart from summer 2010, have increased in nearly every subsequent month. The mid-May 2011 price of 136.7 pence for a litre of unleaded petrol was the highest cash price ever until the March 2012 figure of 137.9 pence per litre. The 141.5 pence for a litre of diesel in May 2011 was also a cash record. It was exceeded in February 2012 and again in March 2012 when the average price was 145.1 pence per litre. Both prices peaked in April 2012; 141.7 and 147.8 pence per litre for petrol and diesel respectively.

Spring 2012 to early 2022

Prices fell back slightly soon afterwards and remained broadly stable or slightly down over the rest of 2012 and much of 2013 and 2014. From late 2014 to early 2016 there was a sustained drop in prices, petrol and diesel prices fell to 101.4 and 101.2 pence per litre respectively in March 2016; their lowest for seven years. For the two and a half years from spring 2016 prices generally increased and in November 2018 diesel reached 137.1 pence per litre and petrol 128.9 pence per litre. These were the highest levels for four years. Prices fell after the Covid-19 lockdown was introduced in March 2020. Monthly prices fell to their lowest levels for four years. This was driven by large falls in oil prices. Since then prices have rebounded, surpassing their pre-pandemic levels in June 2021. Monthly prices peaked in November 2021 and fell back very slightly in January and early February 2022.

Months after Russia's full-scale invasion of Ukraine

Oil prices jumped on 24 February 2022, when Russia launched its full-scale invasion of Ukraine, and continued to rise through early March. This led to very large increases in road fuel prices to new record levels in early and mid-March.

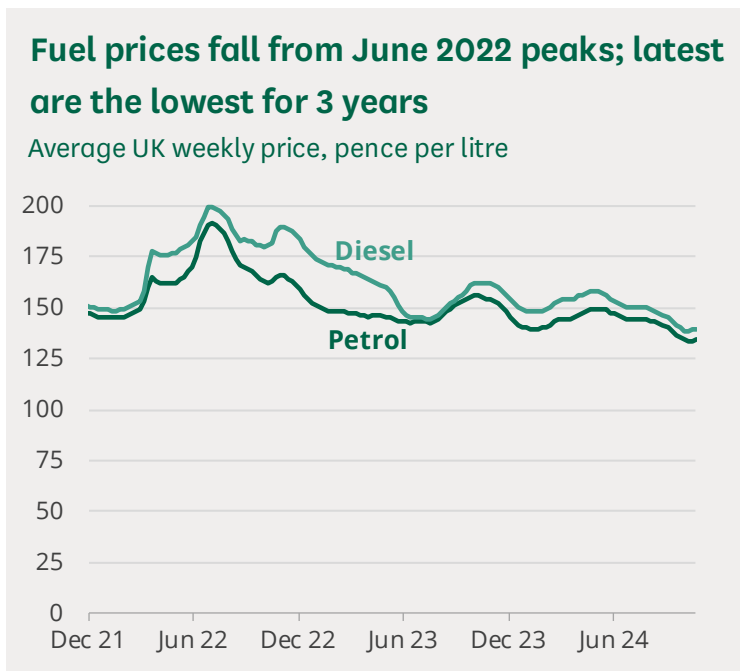
The rates of duty on petrol and diesel were cut by five pence per litre on 23 March 2022. This initially led to a fall in the price of both fuels, but by less than five pence per litre. This drop in prices was soon reversed and there were particularly large increases in late May and June. Both petrol and diesel prices have set and broken many new records in this period. They peaked on 4 July at 191.6 and 199.2 pence per litre for petrol and diesel respectively.

Summer 2022 onwards

Prices fell steadily from their July 2022 highs to mid-summer 2023, other than a brief period in October 2022. They increased again in autumn 2023, fell towards the end of the year, increased in spring 2024 before falling in summer 2024. Prices of Petrol and diesel in September 2024 prices were the lowest since autumn 2021.

There was also a sharp fall in the gap between diesel and petrol prices in summer 2023. It had reached record levels in late 2022. The price gap increased again in late 2023, but has not approached record levels.

The latest weekly price data is given below.



Source: DESNZ, [Weekly road fuel prices](#)

Recent Average UK fuel prices
weekly prices in pence per litre

	Petrol	Diesel
16 Sep 2024	136.5	141.6
23 Sep 2024	135.3	140.0
30 Sep 2024	134.2	138.9
07 Oct 2024	133.6	138.5
14 Oct 2024	133.9	139.1
21 Oct 2024	134.0	139.3

Competition and Markets Authority report on road fuel pricing

In July 2023 the Competition and Markets Authority (CMA) published the final version of its report on its road fuel market study [Supply of road fuel in the United Kingdom market study](#). Its conclusions included:¹

- Competition between retailers has weakened in recent years.
- Retail margins in fuel retail have risen significantly since 2019.
- Historic price leaders among the supermarkets had ‘significantly’ increased their margins on fuel in recent years, with the largest increases coming in 2022-23. Other retailers followed their price lead.
- The average fuel margins at the big four supermarket retailers increased by an estimated **6 pence per litre** between 2019 and 2022, costing their customers an estimated **£900 million**.
- Retailers increased their diesel margins more than for petrol in early 2023. This meant drivers paying **13 pence per litre** more for diesel in the first five months of 2023 than if margins were at their 2017-2022 average.
- There were ‘significant’ drops in the price of fuel after each of the interim reports in this study. This indicated “...that there was room for retailers to reduce prices”

The report said that based on its analysis:²

...there is clear evidence in the data of rocket and feather pricing for diesel in 2023. The evidence from the retailers suggests that this may have been used as a strategy to increase margin in a manner that is less visible to consumers than increasing prices.

The increases in margins on diesel in 2023 that the report identified imply an additional cost to consumers of around **£1.6 billion**,³ taking to total cost to consumers of this and the higher supermarket margins between 2019 and 2022 to around **£2.5 billion**.

¹ CMA, [Supply of road fuel in the United Kingdom market study Final Report](#) (July 2023)

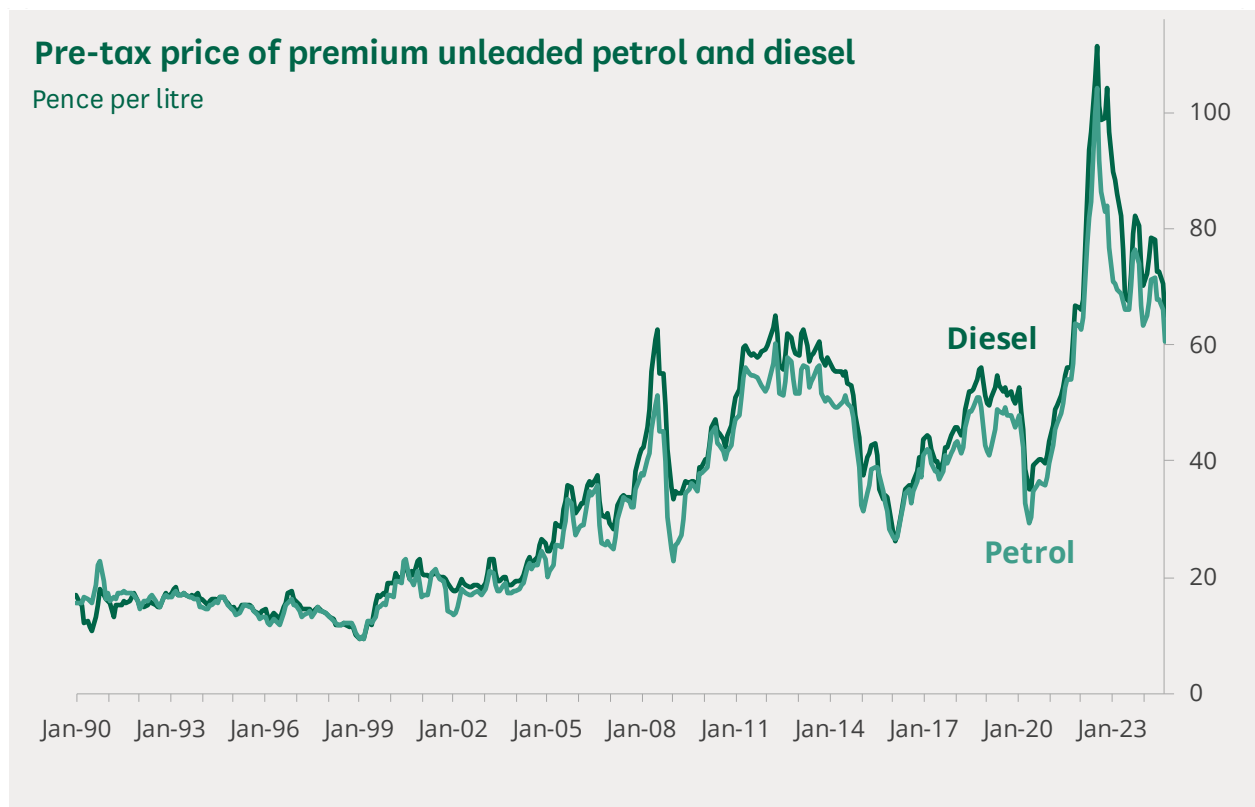
² CMA, [Supply of road fuel in the United Kingdom market study Final Report](#) (para 5.134)

³ 13 pence per litre multiplied by 12.1 billion litres of diesel released for consumption between January and May 2023. Quantities from HMRC, [Hydrocarbon Oils Bulletin](#)

2

Trends in pre-tax prices

[Table 1](#) also includes pre-tax price figures and these are illustrated below. This helps to identify the impact of duty increases and those of higher oil prices. Again there were numerous peaks and troughs, but the trend in pre-tax prices of both fuels was static or downwards for much of the 1990s. The increases shown in the first chart were driven by increases in duty – the so-called road fuel duty escalator. It is also clear that much of the trend in pump prices was driven by changes in the pre-tax prices, rather than in fuel duty. The lows seen in early 1999 were 9.4 pence per litre for petrol and 9.3 pence per litre for diesel.



Source: DESNZ, [Quarterly energy prices](#), Table 4.1.1

There were new record high pre-tax prices for both fuels in each month from December 2007 to July 2008, followed by sharp falls in late 2008. The April 2012 pre-tax price of petrol was 60.5 pence per litre; 18% above the July 2008 level. The pre-tax price of diesel marginally exceeded its July 2008 high when it reached 63.0 pence per litre in March 2012. It increased to 65.4 pence per litre in April 2012. Pre-tax prices were relatively stable for much of 2013.

The sharp fall to early 2016 are shown very clearly in the chart. Pre-tax prices of both fuels dipped below 30 pence per litre in early 2016. The post-lockdown

drop in prices was sharper than this earlier fall, but even the lowest pre-tax prices during lockdown were still above early 2016 levels.

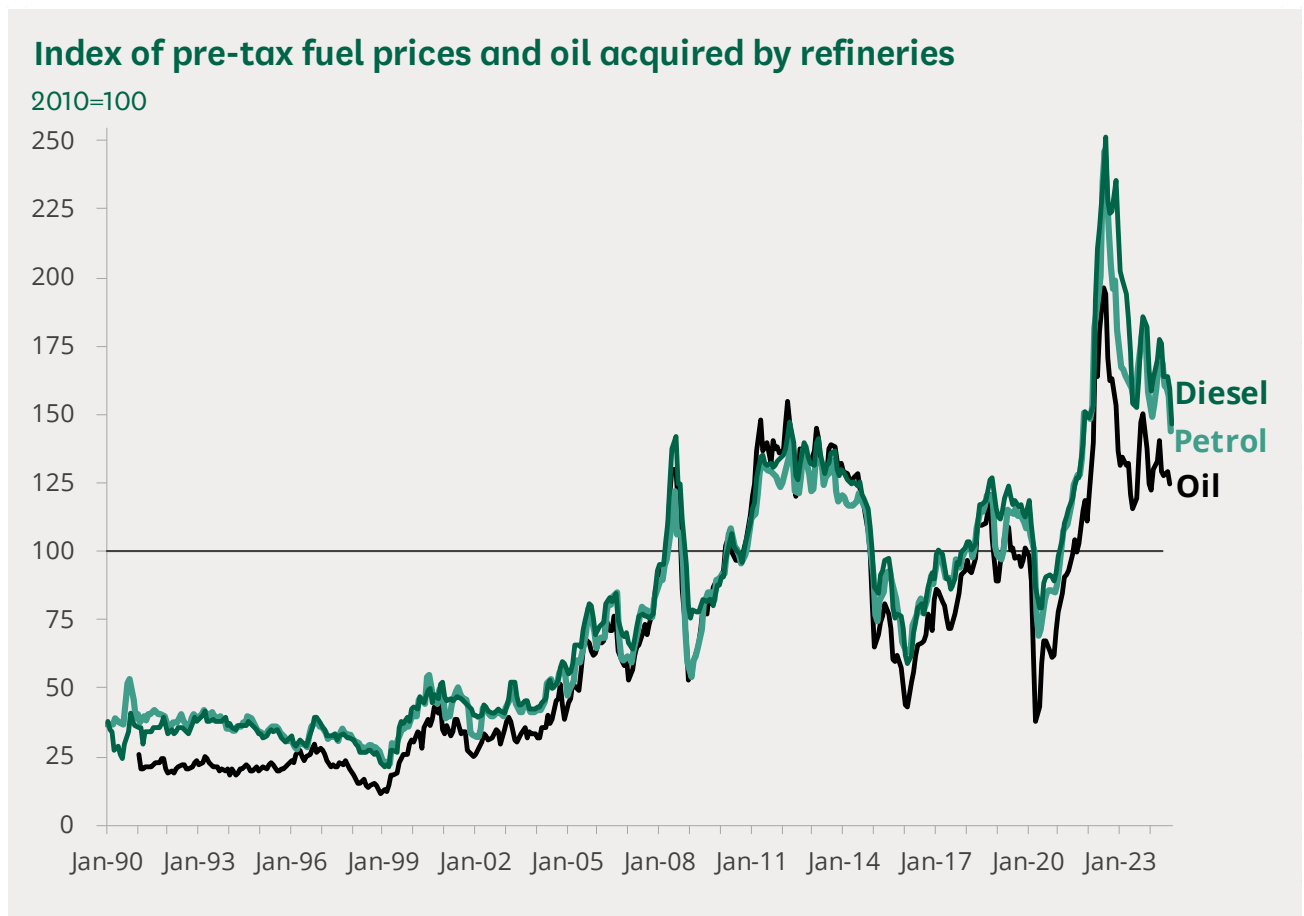
The pre-tax price increases in the two and a half years following Spring 2020 are clearly the largest shown and the fastest over an extended period. Peak pre-tax prices in mid-July 2022 were 104.4 pence per litre for petrol and 11.5 pence per litre for diesel. Before 2021 the record pre-tax prices were around 60 pence per litre for petrol and 65 pence per litre for diesel.

The fall in pre-tax prices in late 2022/early 2023 was clearly slower for diesel than petrol, but diesel prices fell more quickly in early summer 2023.

2.1

Oil prices

The following chart plots index values for oil prices and the pre-tax prices of road fuel. Here the oil prices are those for UK refineries so are in Sterling. This shows a general close match in trends over most of this period. Oil prices have tended to be more volatile and road fuel prices tend to lag oil price trends. The fall in the oil price index after the mid-2022 peak was larger than the falls in the petrol and diesel price indices. This difference may have been due to the lag in retail prices. By early 2024 the cumulative fall in prices since the peak was similar for oil and both road fuels.



Source: DESNZ, [Quarterly energy prices](#), Table 4.1.1

The briefing [Oil prices](#) looks at the difference between headline oil prices in US Dollars and Sterling oil prices. The relative weakness of Sterling, especially since the 2016 Brexit has meant that oil prices in Sterling have increased faster than headline oil prices and have set new records in 2022.

Crude oil prices are not the only element of the pre-tax price which also includes refinery costs/profits, transport and marketing. The Government does not routinely publish data on the breakdown between these elements, although the RAC includes estimates in its [Fuel Watch](#).

Refinery margins and price differentials on the wholesale market

Changes in overall refinery margins (the difference between the price of oil and the price of refined products) can play an important role in road fuel prices. The overall margin will be affected by refinery capacity, stocks of, and demand for, refined products, among other factors. Price differentials between the price of oil and the wholesale price of petrol, diesel and other petroleum products⁴ reflect the supply and demand conditions for each product. They have a direct impact on pump prices and often help to explain the difference between petrol and diesel retail prices.

Wholesale petrol and diesel prices increased rapidly in May and June 2022, while oil prices increased more slowly. The price differential between crude oil and refined products on the wholesale market, especially petrol, diesel and jet fuel, increased to record levels in spring and summer 2022. This added to the upward pressure on road fuel prices from higher oil prices and explains the trend in pump prices at the time.

The wholesale price differential for diesel⁵ spiked after the 2022 Russian invasion of Ukraine as there were concerns about supply from Russia, a major exporter of diesel. It fell back in March 2022, but increased again up to early summer and reached more than \$60 a barrel in early June 2022. This price differential fell through later summer 2022, but increased again in September and jumped in October 2022 to more than \$80 a barrel (compared to just over \$20 a barrel for petrol). This was linked to industrial action at French refineries and the upcoming bans on imports of oil, petroleum products and related maritime services.⁶

The differential for diesel fell to around \$40 a barrel in late 2022 and \$16 a barrel in Spring 2023. It increased again towards the end of 2023, before falling in early 2024. It was round \$16 a barrel in early October 2024 compared to around \$8 a barrel for petrol.⁷

⁴ So-called 'product cracks'

⁵ The difference between wholesale price of diesel and the price of oil on the North West European market.

⁶ International Energy Agency, [Oil Market Report](#) (November 2022)

⁷ International Oil Energy, [Oil Market Report](#) (October 2024 and earlier)

The fall in the price differential in late 2022 and early 2023 was broadly mirrored in the relative prices of diesel and petrol at the pump. However, the fall in the wholesale differential in the first half of 2024 (and it turning negative⁸ in the spring) did not result in any change in the price gap at the pump until late May 2024 when it fell from its previous level of 8-9 pence per litre to around six pence per litre. In Mid-October 2024 diesel was 5 pence per litre more expensive than petrol. It hasn't been cheaper since sinter 2025/16..⁹

According to the International Energy Agency (IEA) the record high price differentials for road fuel (and some other petroleum products) in 2022 were linked to a drop in refinery output particularly in China, Russia and the US, but with seasonal maintenance reducing capacity elsewhere. The IEA also said that the market is increasingly reluctant to take Russian petroleum products and there is a premium paid for products from elsewhere. Refinery strikes and maintenance in late 2022 had affected diesel prices more because Europe is a net importer of diesel (and similar products) but a net exporter of petrol.¹⁰

Why were late 2008 falls in oil prices not matched by falls in road fuel prices?

Headline oil prices fell from July 2008 for much of the rest of the year, but on first glance these falls have not been mirrored in petrol and diesel prices. The accusation is that oil companies and/or fuel retailers have not passed on these savings. There are a few alternative explanations which help to explain *some* of the variation in trends.

First, much of the retail price of these fuels is made up of duty. Variations in oil price affect the pre-tax portion only; therefore we would expect a smaller percentage change in retail prices.

Second, the US Dollar has become stronger since the decline in oil prices started. This means that the fall in oil prices when quoted in Sterling is smaller than the headline Dollar figures. Daily prices quoted in the press are usually the forward month price –the price for delivery of oil in the following month. Therefore we might expect some lag between falls in daily oil prices and price cuts on the forecourt. Timing can be particularly important with the high level of price volatility seen recently.

The OFT report [UK petrol and diesel sector. An OFT Call for Information](#) looked in general terms at claims that forecourt prices rise more rapidly following a wholesale price rise than they do after a wholesale price fall; co-called rocket and feather pricing where prices are said to rise like a rocket but fall like a feather. In summary the report said:¹¹

⁸ When the wholesale price of petrol was more expensive than the wholesale price of diesel

⁹ DESNZ, [Weekly road fuel prices](#)

¹⁰ International Energy Agency, [Oil Market Report](#) (various editions)

¹¹ *UK petrol and diesel sector. An OFT Call for Information*, OFT January 2013. paras 1.19-1.21

Our analysis of the relationship between retail and wholesale prices at a national, local area and site level, as well as the relationship between crude oil prices and wholesale prices at a national level, found very limited evidence of rocket and feather pricing. This result is consistent with evidence that we gathered from market participants, which suggests that rocket and feather pricing is unlikely to occur.

Our econometric analysis sought to identify the speed with which changes in upstream prices changes are passed through the supply chain and then test whether upstream price increases are passed through more quickly than price decreases. If the speed of pass through is faster for a price increase than for a decrease, then rocket and feather pricing is found to occur. We used data covering the period January 2000 to August 2012 for the national analysis and the period November 2011 to October 2012 for the local area and site level analysis.

While our overall findings for local areas are consistent with the national and site level analysis, there were a few instances where the speed of pass-through was statistically significantly different for price rises compared with price falls. However, we do not put much weight on these instances because, among the small number of areas where some evidence of asymmetry was found for petrol prices, no area displayed a consistent pattern of different pass-through speed. Similarly, for the small number of areas where we found asymmetry for diesel prices, no area displayed a consistent pattern of different pass-through speed and the limited evidence of asymmetry that we did find was consistent with prices that 'feather' up and 'rocket' down.

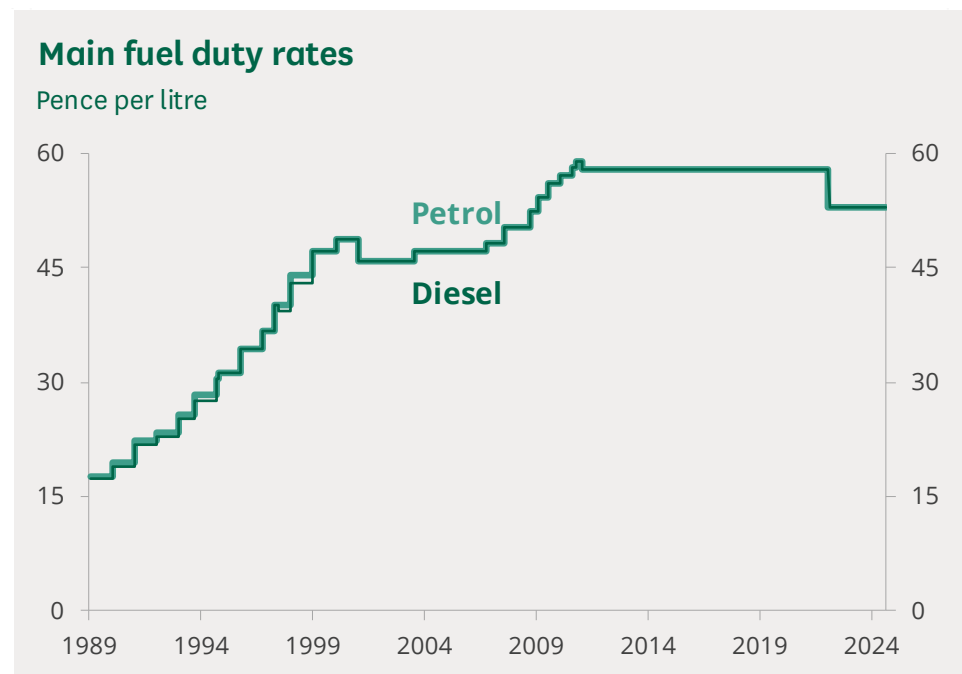
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Tax

The data in [Table 1](#) show how the total tax take from road fuel has changed over time. Falling fuel prices and the fuel duty escalator saw the tax take rise during much of the 1990s to a peak of 86% in early 1999. The relatively small increases in duty between 2001 and 2008 and higher oil prices saw the tax take fall to 57% (petrol) and 53% (diesel) in July 2008. Both rates increased as prices fell in late 2008 and early 2009; petrol to 74% and diesel to 66%.

Since then the tax take fell to a low of just over 50% when prices peaked in spring 2012 and increased to around 75% in the early 2016 as prices fell. The large jumps in pre-tax prices in 2022, and the March 2022 duty cut, meant that the tax take in July 2022, 45% for petrol and 43% for diesel, were the lowest figures in the series that starts in 1990.

Changes in duty rates in cash terms are given in the first chart below. Again this clearly illustrates the increases during the 1990s due to the operation of the road fuel duty escalator. VAT is levied on the post-duty price and hence on the duty and the pre-tax price. Duty rates on each fuel have been identical or very close for the period shown so any difference in total VAT per litre is connected to the pre-tax price.

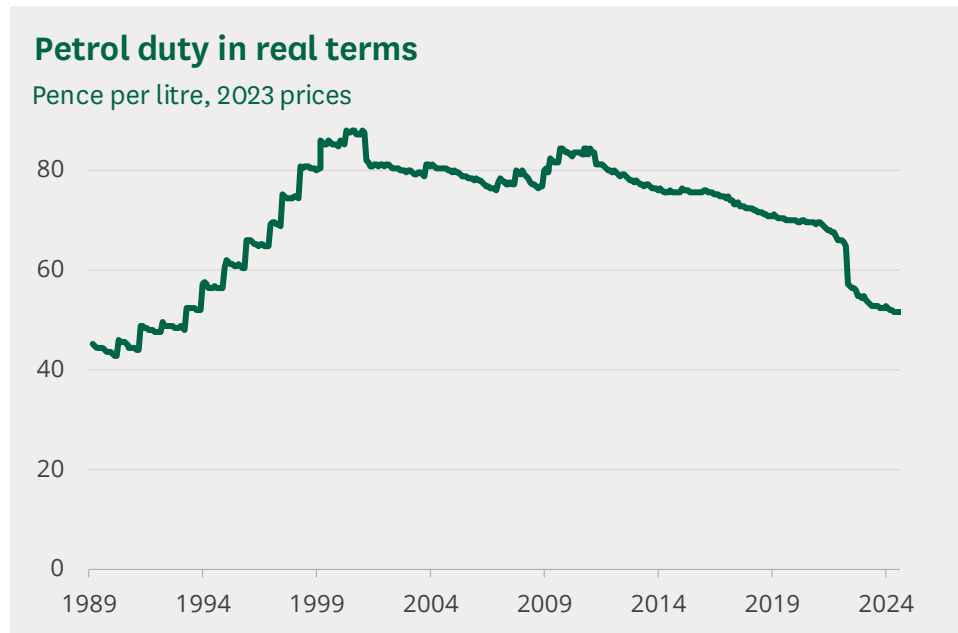


Source: [Hydrocarbon Oils Bulletin](#), HMRC

Duty rates were cut or frozen for around six years from early 2000 and from March 2011 onwards. The March 2022 cut was the first change for 11 years

The real level of fuel duty is currently at its lowest level since March 1993

The next chart plots the rate for petrol in real terms. It shows a gradual cut in the real rate of duty from 2000 to late 2008. By autumn 2008 duty was lower than it had been in real terms since autumn 1996. Subsequent duty increases and lower/negative levels of inflation caused a sharp rise in the real duty rate in 2009. Duty increases in 2010 and January 2011 were nearly matched by higher inflation, so the real level remained broadly constant. The Budget 2011 duty cut took real rates down to early-2009 levels and the subsequent freezing of duty saw gradual falls in its real value. The March 2022 cut in duty and the subsequent high levels of inflation mean that the latest real duty level (September 2024) was its lowest since March 1993.¹²



Source: [Hydrocarbon Oils Bulletin](#), HMRC; ONS, [CPI all-items](#)

Pre-tax price increases add to the VAT on a litre of fuel. The VAT rate was cut from 17.5% to 15% (in response to the financial crisis) at the end of 2008, returned to 17.5% at the start of 2010 and increased to 20% in early 2011.

The real value of the *total* tax (duty plus VAT) on a litre of petrol fell by around one-eighth between summer 2000 and late 2006. Increases in duty, VAT and the pre-tax price (hence VAT again) saw the real value of the total tax element peak in early 2011. The duty cut, subsequent freeze and generally lower pre-tax prices have all contributed to a drop in the real value of tax on a litre of fuel. In mid-September 2024 it was 36% below this peak.

¹² This was immediately before the March 1993 budget which introduced a 10% increase in fuel duty rates and announced the road fuel duty escalator would apply at future budgets. See the Library briefing [Taxation of road fuels: the road fuel escalator \(1993-2000\)](#) for more details.

4 International comparisons

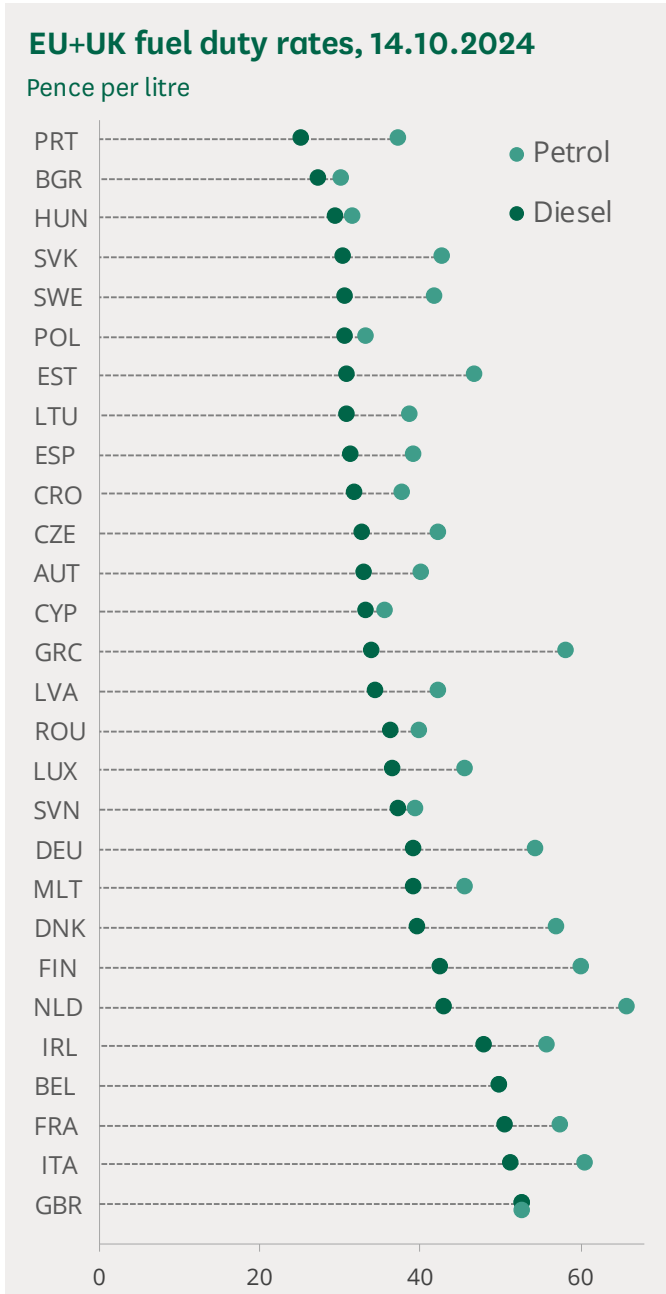
[Table 2 \(appended\)](#) compares diesel and petrol prices and taxes for the UK and the 27 EU member states. The charts below illustrate this information for mid-October 2024.



Source: European Commission, [Oil Bulletin](#)

UK diesel prices are the third highest in the EU+UK. UK petrol prices are below those in nine EU states.

The UK's average petrol price on 14 October 2024 was the 10th highest out of the EU and UK. Over the past two decades the UK has moved down this list from first place as rates of duty have increased in other member states, rising oil prices have shifted the balance from taxes to the pre-tax price and the value of Sterling has been generally weaker against the Euro. During much of 2015 the UK moved back up this list and once again had the highest prices (at times) in late 2015. This was in large part due to the relative weakness of the Euro. Since then the stronger Euro/weaker Pound, especially since the Brexit vote, have pushed the UK's ranking to one of the lowest for many years.



The UK's average diesel price was the third most expensive out of the EU and UK on 14 October 2024. The price of diesel in the UK was clearly the highest in the EU for most of the late 1990s and 2000s, but the gap to the next highest countries fell substantially over time, again due to duty increases elsewhere, higher pre-tax prices and exchange rate movements. Price rises in the EU were initially larger than those in the UK after Russia invaded Ukraine. This meant that diesel prices in the UK were, for a short time, below those in some EU countries. UK diesel prices again became more expensive than anywhere in the EU until recently when prices in Belgium and Finland were somewhat higher.

Much of the difference in pump prices are driven by differences in tax. The chart opposite shows that diesel duty rates in the UK were higher than anywhere in the EU and petrol duty was the ninth highest in the EU +UK. There are also differences in VAT rates and other taxes which affect road fuel prices.

Source: European Commission, [Oil Bulletin \(latest duties and taxes\)](#)

Appendix I - Petrol v diesel prices

The current duty on diesel (52.95 pence per litre) is exactly the same as that on petrol. Duty rates have been the same for most of the last three decades.¹³ Therefore the difference in price is not due to tax, but to the difference in pre-tax prices. A number of factors have pushed up the relative price of diesel over time, the most important of which are thought to be the long term increase in demand for diesel and limited refining capacity.

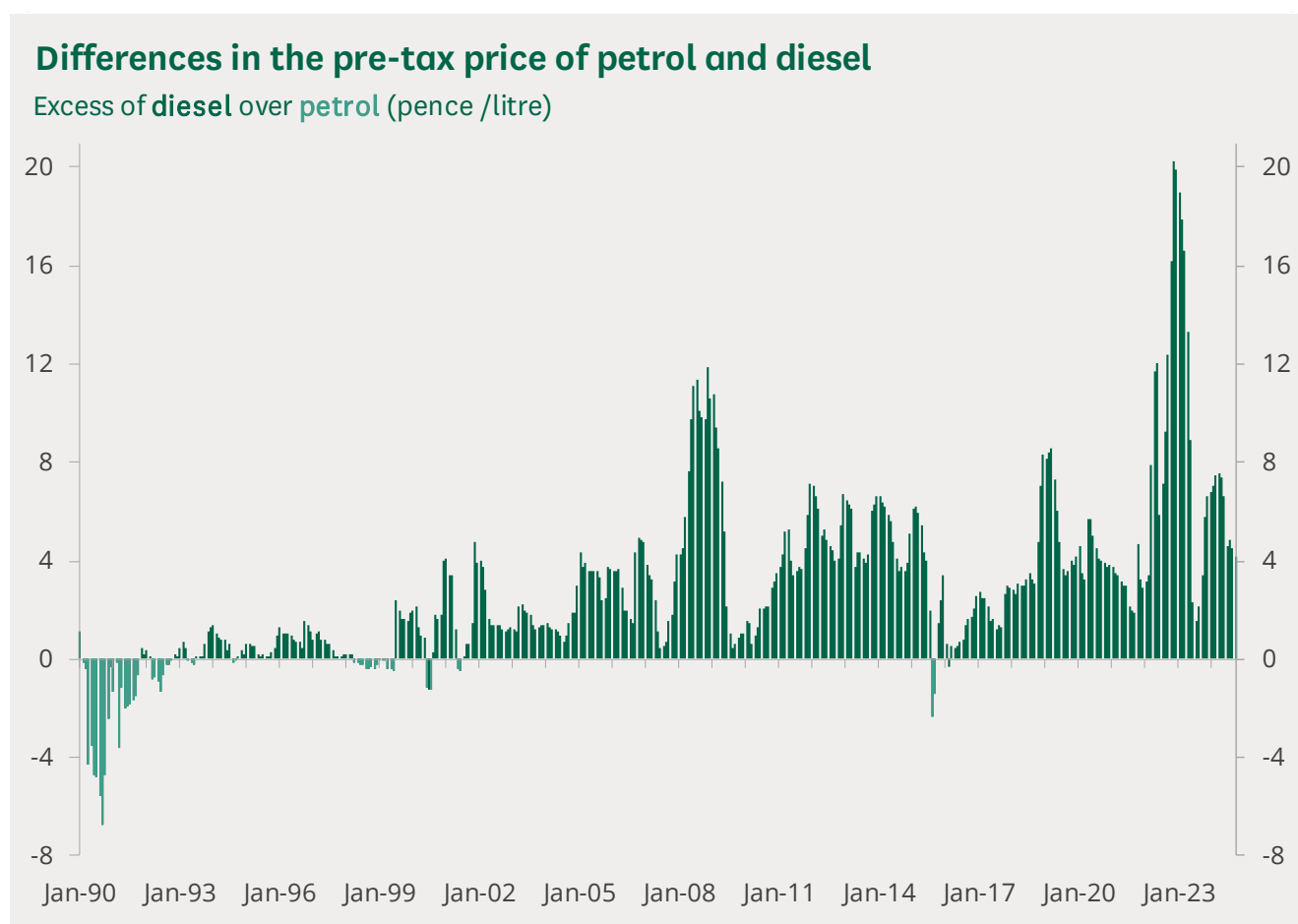
The price gap has varied over time; it virtually disappeared during much of 2009 and petrol was more expensive than diesel for a few months in summer 2015 and early 2016. In early 2022 the gap grew again, first in late spring, then again in autumn. It reached a monthly record high of 24 pence per litre in mid-November 2022. Pages 10-11 of this briefing look at refinery data on wholesale prices of diesel and petrol and summarise some of the reasons for the recent increase.

The price gap fell slightly over the following few months, then more rapidly in late spring and early summer 2023. In July 2023 the gap was down to 1.5 pence per litre, its lowest level since 2017. It has since increased again and has been 8-9 pence per litre since November 2023

The earlier charts show that the underlying (pre-tax) cost of diesel was less than petrol in the early 1990s. It routinely became more expensive from 1999 onwards and until recently the gap had generally increased since then. There is also some evidence in the large price variations since 2001 that compared to petrol, diesel prices are 'sticky downwards' –when prices fall they do not fall as much as those of petrol. This will be in part due to the fact that the underlying increase in diesel prices has been greater, but also due to diesel's seasonal fluctuations this may also in part be because many of the large petrol price falls have been in the winter months, when diesel prices tend to increase (relatively).

The chart below plots monthly pre-tax price differentials from 1990. This helps to illustrate the increase in the scale of the price gap up in 2008 and 2022. It also shows a clear seasonal pattern in some years, especially 2011 to 2015.

¹³ *Hydrocarbon oils bulletin December*, HMRC



Source: DESNZ, [Quarterly energy prices](#), Table 4.1.1

Diesel is a gasoil produced from the same distillate of crude oil as heating oil. Therefore in the colder months when heating oil demand increases there is greater demand for this product of the distillation process and price responds to the increase in demand.¹⁴ The seasonal pattern appears to have become stronger and/or clearer in the early 2010s. The seasonal pattern in price gaps can also be affected by the increased demand for petrol, in North America particularly, during the ‘summer driving season’.

Diverging trends in demand

Overall trends in road fuel use help to explain at least some of the relative price changes shown above. In the UK petrol consumption¹⁵ fell steadily between 1998 and 2018, while diesel consumption increased in each nearly each year from 1981 to 2017. The total drop in petrol consumption between 1998 and 2019 was 46%, while diesel consumption rose by 57%.¹⁶ Trends are illustrated in the chart below. Diesel became more popular than petrol in

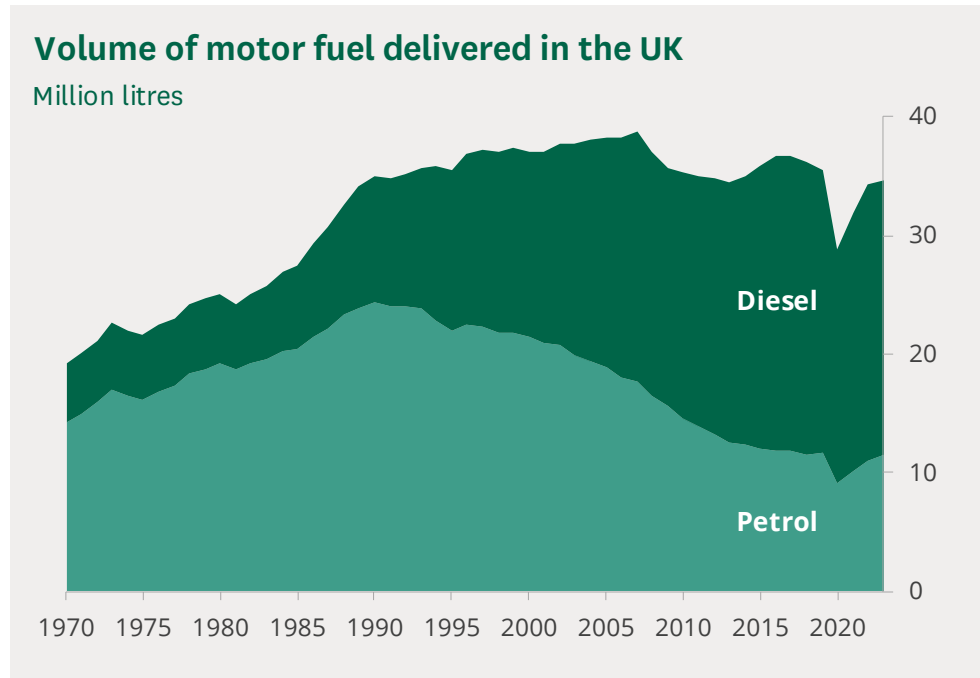
¹⁴ The IEA has recently said that the impact of cold spells on OECD heating oil demand are often overstated and they are in fact declining over time. *Oil Market Report November 2011*, OECD

¹⁵ Total quantity released for consumption

¹⁶ *Digest of UK energy statistics 2019*, DBEIS

2005. In the early 1970s petrol consumption was three times greater than diesel consumption.

Cuts in demand for diesel in 2018 and 2019 may in part have reflected concern over local air pollution caused by diesel vehicles and the potential for restrictions on diesel vehicles in the future.



Source: DESNZ, [Digest of UK energy statistics](#), Long term table 3.1.2.

The drop in consumption in 2020 and 2021 due to pandemic lockdowns are clear. Petrol consumption fell by 22% and diesel consumption by 17% in 2020. There was a rise in 2021, but volumes did not return to near pre-pandemic levels until 2022.

Diesel/heating oil demand has been increasing at a faster rate than petrol demand over the last two decade across Europe and the world as a whole.¹⁷ Prices will have responded to these changes in demand (diesel up, petrol down, relative to what they would have been with constant demand) and the patterns shown earlier are consistent with this. The International Energy Agency has said in the past that ‘preferential diesel taxes’ in Europe have helped to increase the demand for diesel.¹⁸

The US Energy Information Administration has cited the worldwide increased demand for diesel and other distillate fuels putting pressure on tight global refining capacity as the primary reason for the higher price of diesel.¹⁹

¹⁷ *Oil information 2017*, IEA

¹⁸ *Oil Market Report November 2011*, IEA

¹⁹ *Diesel Fuel Prices: What Consumers Should Know*, EIA

Impact at the refinery during peak prices

Increased demand and limited supply is reflected in refinery margins –the difference between the cost of a barrel of refined product and the cost of crude. This is where there large majority of the price differential occurs. In spring 2008 the average margin in North West Europe for ultra-low sulphur diesel peaked at just over \$40 per barrel²⁰, compared around \$5 per barrel for ultra-low sulphur petrol.²¹ This gap represents a price differential of just over 11 pence per litre (around 13 pence per litre after VAT), although margins are volatile and the resulting gap varies daily. The refinery margin for diesel hit a number of new record levels in spring and early summer 2008 and the differential was counter to the ‘normal’ seasonal pattern which would see a fall from March/April.

The International Energy Agency has said that longer term increases in demand from Europe and across the world (China especially) left Europe ‘structurally short’ of diesel and gasoil and hence refinery margins increased. Increasing demand for diesel was one of the key demand factors that resulted in higher oil prices. Europe was importing diesel from elsewhere, but this has had little impact on prices. Falling demand for petrol had left stocks high and has a downward impact on its refinery margins. Even in the US, where petrol demand was normally buoyant in the summer, petrol margins fell due to underlying lower demand and an increase in ethanol in blends.²²

Wide refinery margins are not simply higher refinery operating costs,²³ but an obvious way in which higher diesel demand, limited flexibility of supply and relatively low petrol demand feed through to price differentials.

Why don't refineries simply produce more of the fuel in most demand?

Oil refining produces a range of different petroleum products. If refineries are to respond to high prices and increase their output of diesel/heating oil then output of the less profitable products has to increase as well. This would further reduce the price/profitability of the lesser demanded products such as heavy fuel oils. Therefore, in such a situation, to increase the overall refining margin by a relatively small amount the margins for the individual in-demand products need to increase by a much larger amount. These feed through to consumer prices and, in this case, increase the gap between diesel and petrol prices. Economic theory would suggest that in competitive markets the underlying changes in demand for different fuels would send price signals to (potential) suppliers. The resulting shifts in supply would reduce the price differentials. However, as explained above, the supply of all petroleum

²⁰ The difference between the price of a barrel of refined product and crude oil –‘cracks to benchmark crude’

²¹ *Oil market report July 2008*, IEA

²² *ibid.*

²³ The switch to lower sulphur content diesel (from 1997 onwards) will have increased diesel refining costs although refining costs for ‘basic’ diesel were lower than those for petrol.

products is closely linked; refineries cannot just leave the fuel oil market or enter the diesel market only. Thus price differentials persist and grow.

According to the UK Petroleum Industry Association (UKPIA) refineries in the UK are configured to meet historical patterns of demand which maximised petrol and heavy fuel oil. The change in petrol/diesel demand was mentioned earlier. The demand for jet fuel also increased strongly over time. The major fall in demand over the past few decades has been in fuel oil which itself was largely due to the decline in heavy industry and its replacement by natural gas for heating and power generation. Some of the surplus fuel oil has been further refined to increase petrol and diesel output. The output of UK refineries does not match UK demand and hence the UK imports diesel (mainly from Russia) and jet fuel (mainly from the Middle East) and exports petrol and fuel oil. According to the UKPIA 'changing refinery production to meet demand will require major investment'. They also cite research which predicts that past patterns (greater diesel and jet fuel demand and lower petrol demand) will continue and be exacerbated by increased biofuel production and lower international sulphur limits on shipping from 2020 which will cause a shift from fuel oil to gas oil.²⁴

²⁴ *Statistical review 2008*, UKPIA

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